

In the Claims

Applicants have submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please amend pending claims 1 and 11 as noted below.

1. (Currently Amended) A computer system comprising:
a host domain including a host computer; and
a storage domain coupled to the host domain through one or more communication links,
the storage domain comprising:
a plurality of primary storage devices for the host domain, at least one of the
primary storage devices to provide storage for the host computer;
a secondary storage device to provide backup storage for the host computer; and
a network, separate from each of the one or more communication links that couple the
storage domain to the host domain, that couples the plurality of primary storage devices to the
secondary storage device to permit one of the primary storage devices to access the secondary
storage device through the network without using any of the one or more communication links
that couple the storage domain to the host domain so that communication between the plurality
of primary storage devices and the secondary storage device can occur over the network
simultaneously with communication between the host domain and the storage domain through
the one or more communication links.
2. (Original) The computer system of claim 1, further comprising an additional primary
storage device, coupled directly to the secondary storage device.
3. (Original) The computer system of claim 1, wherein at least one of the primary
storage devices is a cached disk array.

4. (Original) The computer system of claim 1, wherein the secondary storage device includes a plurality of ports coupled to the network, to send and receive data on the network in parallel.

5. (Original) The computer system of claim 4, wherein the secondary storage device comprises a plurality of data movers, each coupled to one of the ports.

6. (Previously Presented) The computer system of claim 1, wherein the computer system includes a plurality of host computers, and wherein the plurality of host computers is heterogeneous.

7. (Original) The computer system of claim 1, further comprising:
means for transferring a first logical object from one of the primary storage devices directly to the secondary storage device over a first connection.

8. (Original) The computer system of claim 7, further comprising:
means for transferring a second logical object from one of the primary storage devices directly to the secondary storage device over a second connection.

9. (Original) The computer system of claim 1, further comprising means for forming an abstract block set from a logical object stored in one of the primary storage devices.

10. (Original) The computer system of claim 1, wherein the secondary storage device comprises a tape library unit.

11. (Currently Amended) A computer system comprising:
a heterogeneous plurality of host computers including at least a first host computer comprising a first platform and a second host computer comprising a second platform different from the first platform;

a plurality of primary storage devices to receive and store data, each primary storage device being associated with at least one of the host computers;

a secondary storage device coupled to at least some of the plurality of primary storage devices, the secondary storage device being configured to receive and store backup data from each of the first and second host computers; and

a single backup controller capable of backing up data stored from both the first and second host computers on the plurality of primary storage devices to the secondary storage device, wherein the data stored from the first host computer on the plurality of primary storage devices has a first format established by the first platform and the data stored from the second host computer on the plurality of primary storage devices has a second format established by the second platform.

12. (Original) The computer system of claim 11, wherein at least one of the primary storage devices is a cached disk array.

13. (Original) The computer system of claim 11, further comprising means for forming an abstract block set from a logical object stored in one of the primary storage devices.

14. (Previously Presented) The computer system of claim 11, wherein the secondary storage device includes a plurality of ports, to send and receive data in parallel.

15. (Original) The computer system of claim 14, wherein the secondary storage device comprises a plurality of data movers, each coupled to one of the ports.

16. (Original) The computer system of claim 11, further comprising:
means for transferring a first logical object from one of the primary storage devices directly to the secondary storage device over a first connection.

17. (Original) The computer system of claim 16, further comprising:

means for transferring a second logical object from one of the primary storage devices directly to the secondary storage device over a second connection.

18. (Original) The computer system of claim 11, wherein the secondary storage device comprises a tape library unit.

19. (Previously Presented) A method of transferring data from at least one of a plurality of primary storage elements to a secondary storage element, the plurality of primary storage elements comprising a primary storage element that serves as primary non-backup storage for a host computer that is separate from and coupled to the primary storage element, the method comprising steps of:

automatically establishing a first connection through a network between a first primary storage element and the secondary storage element through which a first logical object can be transferred from the first primary storage element to the secondary storage element, the first connection being determined by at least one of the first primary storage element and the secondary storage element; and

transferring the first logical object from the first primary storage element directly to the secondary storage element over the first connection.

20. (Previously Presented) The method of claim 19, further comprising steps of:

automatically establishing a second connection through the network from a second one of the primary storage elements to the secondary storage element to transfer a second logical object to the secondary storage element; and

transferring the second logical object from the second one of the primary storage elements directly to the secondary storage element over the second connection.

21. (Previously Presented) The method of claim 20, wherein the step of transferring the first logical object and the step of transferring the second logical object are performed in parallel.

22. (Previously Presented) The method of claim 20, wherein the first logical object and the second logical object were created by heterogeneous operating systems.

23. (Original) The method of claim 19, wherein the step of automatically establishing comprises a step of establishing a path through a network.

24. (Original) The method of claim 19, wherein the secondary storage element comprises a tape library unit.

25. (Original) The method of claim 19, wherein:
the secondary storage element comprises a plurality of data movers; and
the step of automatically establishing comprises a step of selecting at least one of the data movers.

26. (Previously Presented) The computer system of claim 1, wherein the network is coupled to the plurality of primary storage devices and to the secondary storage device to permit one of the primary storage devices to access the secondary storage device through the network without involving the host domain.

27. (Previously Presented) The computer system of claim 11, wherein the secondary storage device is configured to receive the back up data from at least one of the primary storage devices without involving one or more of the host computers.

28. (Previously Presented) The method of claim 19, wherein the step of transferring the first logical object includes transferring the first logical object from the first one of the primary storage elements directly to the secondary storage element without involving the host computer.